3.18.15
Obj: To reflect and dilate figures.

(0-15) Do Now:
Fill in the blanks with the correct word.
2. If the point (4, 3) is translated six units down and five units left, write the coordinates of the translated point (_____, _____).
3. If the point (4, 3) is translated three units up and two units right, write the coordinates of the reflected point (_____, _____).
4. Graph the triangle: A(2,4), B, (0,7) and C(-2, 2). Then, graph its translation with the following rule: A'B'C' = (x + 1, y - 3).

(15-20) HW Check

(20-35) Notes: Reflections and Rotations
reflection: FLIP
To reflect a point (x, y) across the x-axis, the new point is located at (x, -y).
To reflect a point (x, y) across the y-axis, the new point is located at (-x,y).
Ex 1: A right triangle has vertices at (2, 2), (2, 4) and (4, 2). Reflect this triangle across the y-axis.)

dilations: transformation in which a figure is enlarged or reduced by a scale factor
$(x, y) \rightarrow (kx, ky)$ where k is the scale factor

Ex 2: Graph the triangle with vertices at (0, 5), (1, 2) and (4, 1). Dilate the triangle by a scale factor of 2.

(35-50) Transformations Packet

(50-60) Mental Math: Mixed Review

(60-65) Exit Slip
1. Describe the difference between a reflection and a dilation.
CHALLenge: Without graphing, find the new coordinates of the quadrilateral originally at (2, 4), (2, 6), (-2, 4) and (-2, 6) if the quadrilateral is dilated by a scale factor of three, then translated two units left and one unit down.

Name: _____ **Date:** _____

Obj: _____

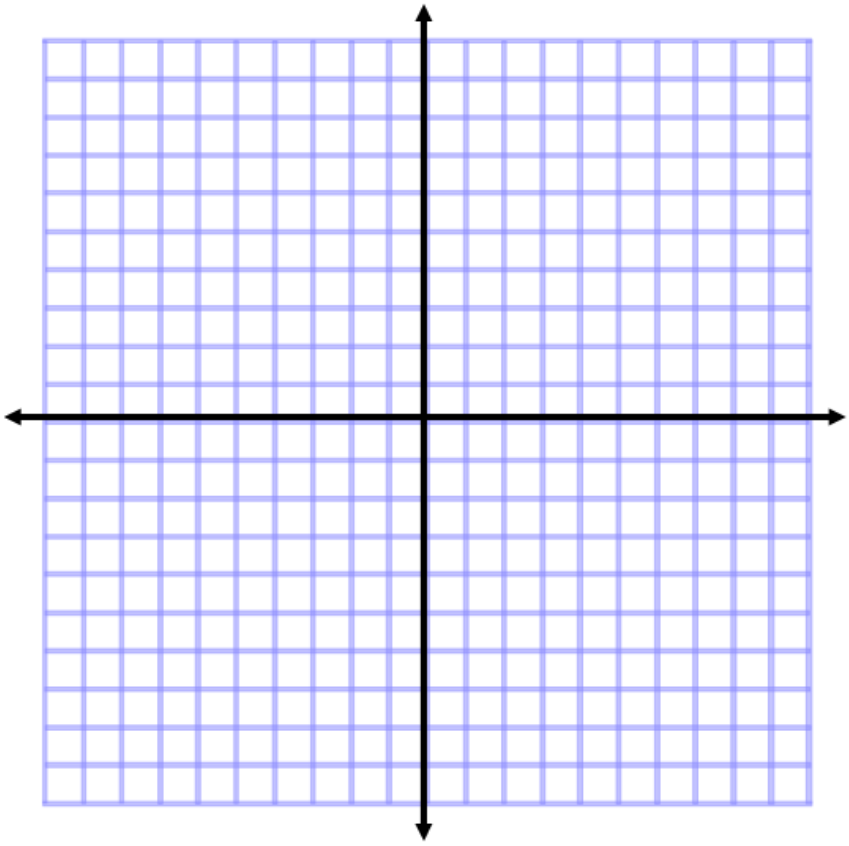
Do Now:

1. Take out HW, pencil, planner and binder. Copy HW in planner; leave ALL out to be checked.

2. If the point (4, 3) is translated six units down and five units left, write the coordinates of the translated point (_____, _____).

3. If the point (4, 3) is translated three units up and two units right, write the coordinates of the reflected point (_____, _____).

4. Graph the triangle: A(2,4), B, (0,7) and C(-2, 2). Then, graph its translation with the following rule: A'B'C' = (x + 1, y - 3).



Notes: _____

reflection: _____

To reflect a point _____across the _____, the new point is located at

_____.

To reflect a point _____across the _____, the new point is located at

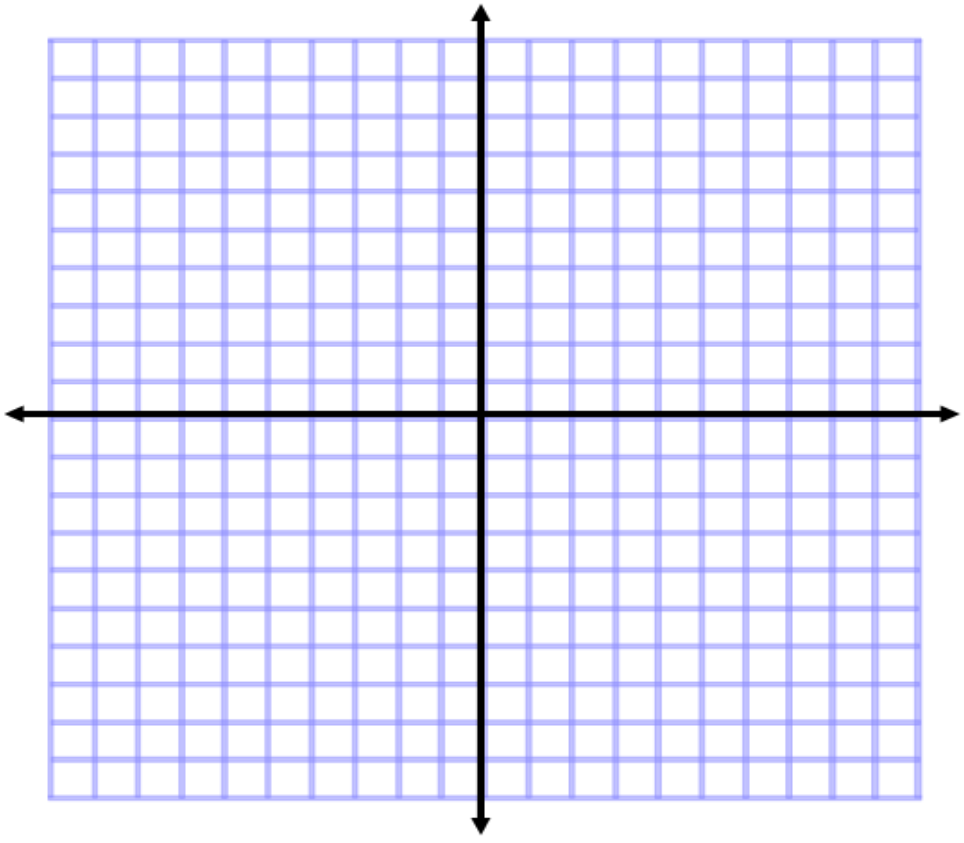
_____.

dilation: _____ in which a figure is _____ or

_____ by a _____ factor

_____ → _____ where _____ is the _____ factor

Examples:



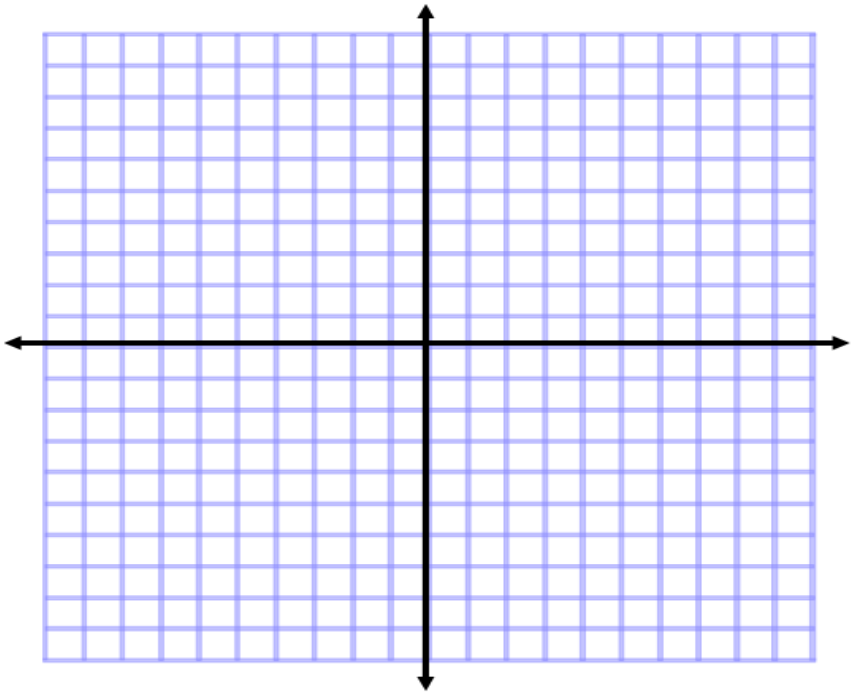
Name: _____

Date: _____

Graphing Exercise: Transformations

#1: Step 1: Graph the quadrilateral of your choice on the coordinate plane and label your vertices ABCD. Write the coordinates of your vertices below.

A (_____, _____) B (_____, _____) C (_____, _____) D (_____, _____)



Step 2: Translate your quadrilateral one unit right and three units down and label your vertices A'B'C'D'.

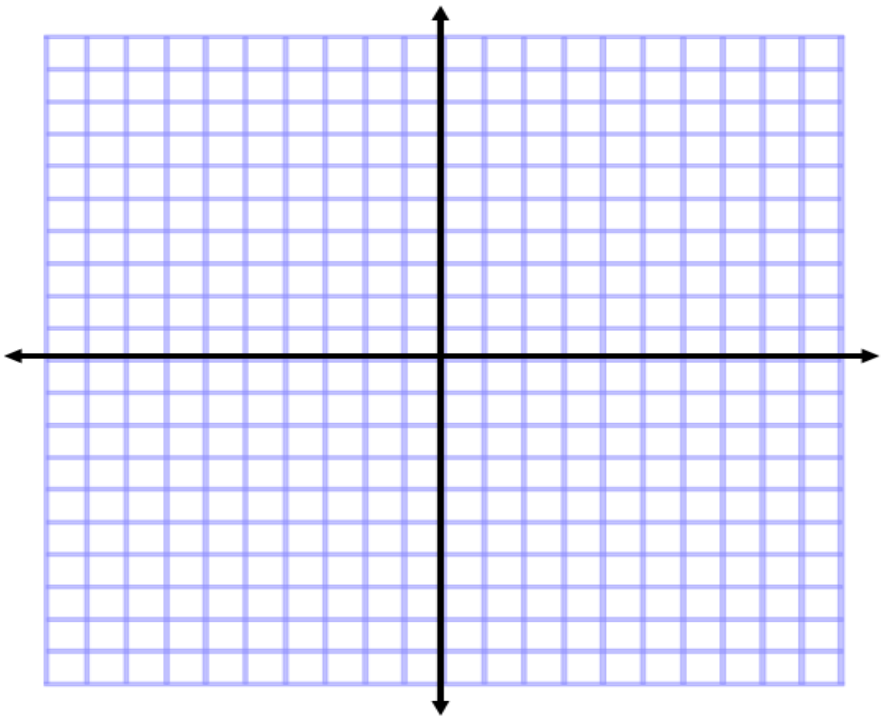
A'(_____, _____) B'(_____, _____) C'(_____, _____) D'(_____, _____)

Step 3: With colored pencils, color both quadrilaterals in two different colors.

#2: Step 1: Graph the pentagon of your choice on the coordinate plane and label your vertices EFGHI. Write the coordinates of your vertices below. **Choose coordinates less than or equal to 5.**

E (_____, _____) F (_____, _____) G (_____, _____)

H (_____, _____) I (_____, _____)



Step 2: Dilate your pentagon by a scale factor of two and label your vertices E'F'G'H'I'. Write the new coordinates of your vertices below.

E' (_____, _____) F' (_____, _____) G' (_____, _____)

H' (_____, _____) I' (_____, _____)

Step 3: Reflect your pentagon over the y-axis and label your vertices E"F"G"H"I". Write the new coordinates of your vertices below.

E" (_____, _____) F" (_____, _____) G" (_____, _____)

H" (_____, _____) I" (_____, _____)

Step 4: With colored pencils, color all three pentagons in different colors.